

## **REMARKS**

Prior to this Reply, Claims 1-45 were pending. Through this Reply, Claims 1, 5-15, 19-32 and 36-45 have been amended, Claims 2-4, 16-18 and 33-35 have been cancelled, and Claims 46-109 have been added. Accordingly, Claims 1, 5-15, 19-32 and 36-109 are now at issue in the present case.

### **I. Allowable Subject Matter**

The Examiner objected to Claims 4-7, 9, 13, 18-21, 23, 27, 30, 31, 35-38, 40 and 44 as being dependent upon a rejected base claim. However, the Examiner indicated that such claims would be allowable if they were written in independent form to include the limitations of their respective base claims and any intervening claims.

### **II. Rejections Under 35 U.S.C. § 102(e) – Ge et al.**

The Examiner rejected Claims 1-3, 8, 15-17, 22, 32-34 and 39 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2003/0128458 to Ge et al.

Claim 1 has been amended to include substantially all of the limitations of Claim 2 and objected-to Claim 4. Therefore, Applicants submit that Claim 1 is allowable. Claims 2 and 3 have been cancelled. Claim 8 depends on Claim 1.

Claim 15 has been amended to include substantially all of the limitations of Claim 16 and objected-to Claim 18. Therefore, Applicants submit that Claim 15 is allowable. Claims 16 and 17 have been cancelled. Claim 22 depends on Claim 15.

Claim 32 has been amended to include substantially all of the limitations of Claims 33 and objected-to Claim 35. Therefore, Applicants submit that Claim 32 is allowable. Claims 33 and 34 have been cancelled. Claim 39 depends on Claim 32.

In view of the above, Applicants respectfully request that the rejections be withdrawn.

**III. Rejections Under 35 U.S.C. § 102(e) – Ho et al.**

The Examiner rejected Claims 1-3, 8, 10-12, 14-17, 22, 25, 26, 28, 29, 32-34, 39, 41-43 and 45 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,628,472 to Ho et al.

Claims 1, 15 and 32 are believed to be allowable, as mentioned above. Therefore, Applicants respectfully request that these rejections be withdrawn.

**IV. New Claims**

Claims 46-109 have been added. No new matter has been added.

Claims 46-51 depend on Claim 32 and are believed to be allowable for at least the same reasons as Claim 32.

Claim 52 corresponds to objected-to Claim 9 and includes substantially all of the limitations of its base claim and any intervening claims. Therefore, Applicants submit that Claim 52 is allowable.

Claim 53 corresponds to objected-to Claim 13 and includes substantially all of the limitations of its base claim and any intervening claims. Therefore, Applicants submit that Claim 53 is allowable.

Claim 54 corresponds to objected-to Claim 23 and includes substantially all of the limitations of its base claim and any intervening claims. Therefore, Applicants submit that Claim 54 is allowable.

Claim 55 corresponds to objected-to Claim 27 and includes substantially all of the limitations of its base claim and any intervening claims. Therefore, Applicants submit that Claim 55 is allowable.

Claim 56 corresponds to objected-to Claim 30 and includes substantially all of the limitations of its base claim and any intervening claims. Therefore, Applicants submit that Claim 56 is allowable.

Claim 57 corresponds to objected-to Claim 31 and includes substantially all of the limitations of its base claim and any intervening claims. Therefore, Applicants submit that Claim 57 is allowable.

Claim 58 corresponds to objected-to Claim 40 and includes substantially all of the limitations of its base claim and any intervening claims. Therefore, Applicants submit that Claim 58 is allowable.

Claim 59 corresponds to objected-to Claim 44 and includes substantially all of the limitations of its base claim and any intervening claims. Therefore, Applicants submit that Claim 59 is allowable.

Claim 60 recites “the function has a first selectable parameter  $N$  representing a threshold level for non-linear signal adjustment to adjust the disturbance signal as a non-linear function of the ratio of the amplitude of the disturbance signal and the parameter  $N$ .” Therefore, Applicants believe that Claim 60 is allowable, as the Examiner correctly indicated that original Claims 4, 18 and 35 contain allowable subject matter. Claims 61-69 depend on Claim 60 and are allowable for at least the same reasons as Claim 60.

Claim 70 recites “a non-linear odd function.” Therefore, Applicants believe that Claim 70 is allowable, as the Examiner correctly indicated that original Claims 9, 23 and 40 contain

allowable subject matter. Claims 71-79 depend on Claim 70 and are allowable for at least the same reasons as Claim 70.

Claim 80 recites “the peak filter generates the disturbance signal by narrow-band filtering the position error signal based on the frequency band and amplitude range of the disturbance signal.” Therefore, Applicants believe that Claim 80 is allowable, as the Examiner correctly indicated that original Claims 13, 27 and 44 contain allowable subject matter. Claims 81-90 depend on Claim 80 and are allowable for at least the same reasons as Claim 80.

Claim 90 recites “the saturation controller clips the correction signal if the amplitude of the correction signal is above a threshold.” Therefore, Applicants believe that Claim 90 is allowable, as the Examiner correctly indicated that original Claim 30 contains allowable subject matter. Claims 91-99 depend on Claim 90 and are allowable for at least the same reasons as Claim 90.

Claim 100 recites “the deadzone controller blocks the correction signal if the amplitude of the correction signal is below a threshold.” Therefore, Applicants believe that Claim 100 is allowable, as the Examiner correctly indicated that original Claim 31 contains allowable subject matter. Claims 101-109 depend on Claim 100 and are allowable for at least the same reasons as Claim 100.

## **V. Other Amendments to Claims**

The claims have been amended to improve clarity. No new matter has been added.

## **VI. Amendments to Specification**

A substitute specification without claims (and a marked-up version thereof) is provided herein under 37 C.F.R. 1.125 to improve clarity of the specification. No new matter has been added. Applicants respectfully request that the substitute specification be entered.

In the substitute specification, Applicants amended the title of the invention. Applicants respectfully request that the U.S. Patent and Trademark Office update its records, including its electronic records, to reflect the amended title.

## **VII. Amendments to Drawings**

Applicants are submitting replacement Figures 1, 2, 3A, 3B and 4-7 (contained on Replacement Sheets 1-7) to improve the quality of the drawings.

Figure 1 has been modified to clarify host computer 102, disk 104, ECC unit 116, servo controller 122 and disk controller 124.

Figure 2 has been modified to clarify band pass filter 202, gain controller 204, the position error signal and the corrected position error signal.

Figure 3A has been modified to show “Frequency (Hz)” at the x-axis and “Amplitude” at the y-axis and to delete “Magnitude” at the y-axis and “Bode plot of Peak filter” at the top.

Figure 3B has been modified to show “Frequency (Hz)” at the x-axis and “Phase (degrees)” at the y-axis and to delete “Phase [deg]” at the y-axis.

Figure 4 has been modified to show “Frequency (Hz)” at the x-axis and “Percentage of Track Width” at the y-axis and to delete “HZ, trkID= 0” at the x-axis and “% of track width” at the y-axis.

Figure 5 has been modified to show “Frequency (Hz)” at the x-axis and “Percentage of Track Width” at the y-axis and to delete “HZ, trkID= 0” at the x-axis and “% of track width” at the y-axis.

Figure 6 has been modified to clarify band pass filter 302, saturation controller 304, gain controller 306, deadzone controller 308, the position error signal and the corrected position error signal.

Figure 7 has been modified to clarify attenuator 400, band pass filter 404, saturation controller 406, gain controller 408, deadzone controller 410, band pass filter 412, deadzone controller 414, gain controller 416, saturation controller 418, the position error signal and the corrected position error signal.

No new matter has been added. Figures 1, 2, 3A, 3B and 4-7 constitute all of the drawings of the application.

## **VIII. Additional Claim Fees**

In determining whether additional claim fees are due, reference is made to the Fee Calculation Table (below).

**Fee Calculation Table**

	Claims Remaining After Amendment		Highest Number Previously Paid For	Present Extra	Rate	Additional Fee
Total (37 CFR 1.16(c))	100	Minus	45	= 55	x \$50 =	\$2750.00
Independent (37 CFR 1.16(b))	16	Minus	3	= 13	X \$200=	\$2600.00

As set forth in the Fee Calculation Table (above), Applicants previously paid claim fees for forty-five (45) total claims and for three (3) independent claims. Therefore, Applicants hereby authorize the Commissioner to charge the credit card identified on the enclosed Form PTO-2038 in the amount of \$5350.00 for the presentation of fifty-five (55) total claims over

forty-five (45) and thirteen (13) independent claims over three (3). Although Applicants believe that no other fees are due, the Commissioner is hereby authorized to charge Deposit Account No. 50-2198 for any fee deficiencies associated with filing this paper.

#### **IX. Conclusion**

It is believed the above comments establish patentability. Applicants do not necessarily accede to the assertions and statements in the Office Action, whether or not expressly addressed.

Applicants believe that the application appears to be in form for allowance. Accordingly, reconsideration and allowance thereof is respectfully requested.

The Examiner is invited to contact the undersigned at the below-listed telephone number regarding any matters relating to the present application.

Respectfully submitted,



\_\_\_\_\_  
Tejpal S. Hansra  
Registration No. 38,172  
Hansra Patent Services  
4525 Glen Meadows Place  
Bellingham, WA 98226  
(360) 527-1400

Date: Nov. 23, 2005